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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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SCULLY SCOTT MURPHY & PRESSER, PC  
400 GARDEN CITY PLAZA  
GARDEN CITY, NY 11530

EXAMINER

CONTEE, JOY KIMBERLY

ART UNIT PAPER NUMBER

2681

DATE MAILED: 12/16/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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# Office Action Summary

Application No.  
**09/444,166**

Applicant(s)  
**Hosonuma**

Examiner  
**Joy Contee**

Art Unit  
**2681**



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Oct 8, 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 7-9, 11, 13-15, and 17 is/are rejected.
- 7) ☒ Claim(s) 4, 6, 10, 12, 16, and 18 is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other:

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## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed October 8, 2002 have been fully considered but they are not persuasive.

Applicant asserts that Iwane (U.S. Patent No. 5,719,750) cannot disclose the limitations of claims 1, 7 and 13 because Iwane discloses ground layers 3a and 3b which are shown sandwiched between the internal layer (e.g., conductor layer 2b) formed between the conductor layers 1 to 4 forming the internal layer. However, if this is the case, Applicant has described on page 7, lines 8-23, of the specification, and shown in Figs. 2 and 4 (**#4a, #5, #1, #2, #3 and #4b**) of the instant application, the same sort of structure for a flexible board. Specifically, Applicant describes and shows:

a first ground layer 1 and second ground layer 3 (anticipated by Iwane's layers 3a and 3b, see Fig. 2); a first cover layer 4a which covers the surface of the first ground layer 1 and a second cover layer 4b which covers a surface of the second ground layer (anticipated by Iwane's layers 1 and 4, see Fig. 2); and, insulating adhesive layers 5 sandwiched between the adjacent layers (as anticipated by Iwane's insulation layers 5a-5e).

Thus, Applicant's present invention, as claimed and supported by the specification and figures, must also disclose a first ground layer formed on an upper surface of said internal layer and a second ground layer formed on a lower surface of said internal layer, as recited in claims 1 and 13. Further, the present invention must also disclose covering an upper surface of said

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internal layer with a first ground layer and covering a lower surface of said internal layer with a second ground layer, as recited by claim 7. Applicant's present invention is claimed and supported to show, similar to Iwane, a structure of a flexible board in which ground layers 1 and 3 are sandwiched between the internal layers formed between layers 4a and 4b, which include the insulation layers 5 and ground 1 and 3 and "the internal" layer 2.

Examiner asserts that Applicant's claimed internal layer 2 is anticipated by Iwane's conductor layer 2b which is a part of and therefore formed between between conductive layers 1 to 4.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b).

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Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-3,5,7-9, 11, 13-15 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Iwane, U.S. Patent No. 5,719,750.

Regarding claims 1, 7 and 13, Iwane discloses a flexible board (and method of fabricating and a cellular phone including (see col. 2, lines 55-56) comprising:

(a) an internal layer (i.e., formed between conductor layers 1 to 4) (*see col. 3, lines 39-56 and Fig. 2*);

(b) a line (i.e., conductive layer 2b) formed in a first area of said internal layer, said line radiating unnecessary radiation (*col. 3, lines 41-43*);

(c) a first ground layer (i.e., **3a**) formed on an upper surface of said internal layer, said first ground layer disallowing radiation to pass therethrough (*col. 3, lines 58-61*); and

(d) a second ground layer (**3b**) formed on a lower surface of said internal layer, said second ground layer disallowing radiation to pass therethrough (*col. 3, lines 58-61*).

Regarding claims 2,8 and 14, Iwane discloses the flexible board (and fabrication of) as set forth in claims 1, 7 and 13, respectively, further comprising:

(e) a first cover layer (i.e., 1) formed over a surface of said first ground layer (*see Fig. 2 and col. 3, lines 40-44*); and

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(f) a second cover layer (i.e., 4) formed over a surface of said second ground layer (*see Fig. 2, col. 3, lines 40-44*).

Regarding claims 3,9 and 15, Iwane discloses the flexible board (and fabrication of) as set forth in claims 2, 8 and 14, respectively, further comprising electrically insulating adhesive layers (i.e., 5c, 5d) sandwiched among said internal layer, said first and second ground layers, and said first and second cover layers (*see Fig. 2 and col. 3, lines 42-44*) .

Regarding claims 5, 11 17, Iwane discloses the flexible board (and fabrication of) as set forth in claims 1, 7 and 13, respectively, wherein a plurality of through-holes is formed throughout said first ground layer, said internal layer, and said second ground layer (*see Fig. 2 and col. 3, lines 58-62*).

***Allowable Subject Matter***

4. Claims 4 ,6 , 10, 12, 16 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter:

Prior art fails to disclose wherein a ground line formed in a second area except said first area in said internal layer and wherein a plurality of through-holes is formed throughout said first ground layer, said ground line, and said second ground layer said through-holes electrically connecting said first ground layer said ground line and said second ground layer to one another .

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*Conclusion*

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joy K. Contee whose telephone number is (703) 308-0149.

The examiner's normal working hours are between 5:30 a.m. and 2:00 p.m., Monday through Friday.

If the examiner can not be reached, the examiner's supervisor, Dwayne Bost can be reached on (703)305-4778.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Customer Service Office whose telephone number is (703)306-0377.

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**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

((703) 872-9314, (for informal or draft communications, please label "PROPOSED" or

"DRAFT")

*Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington.  
VA., Sixth Floor (Receptionist).*



Joy K. Contee

December 11, 2002



NAY MAUNG  
PRIMARY EXAMINER